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Elektroden-Dampfluftbefeuchter

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HDS

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VN

Zentrifugalzerstäuber

Atomisers

DG

Luftentfeuchter

Dehumidifiers

VortexSteam

Reduces absorption distances



- Energy saving
- Hygienic
- Cost-saving
- Modular and upgradeable

Existing multiple steam manifolds employed to shorten absorption distances often imply high costs. A large amount of steam cools down in the manifolds and is lost as condensate. Consequently energy is dissipated and the required humidity cannot be achieved.

VortexSteam from HygroMatik

- Short absorption distances due to optimised air flow turbulences
- Minimum steam loss due to condensation - saves energy and water
- Easy and simple to install - also ideal for retrofitting
- Economically priced and cost-saving in operation



Until recently, facility management used to install heavy-weight multiple steam manifold systems if they needed to shorten absorption distances in the air duct. These multi-lance systems comprise any number of individual metal manifolds. A large part of the steam already produced cools off and is lost as condensation. The larger the number of individual manifolds, the greater is the loss of energy, steam and water.

VortexSteam – modular and energy saving

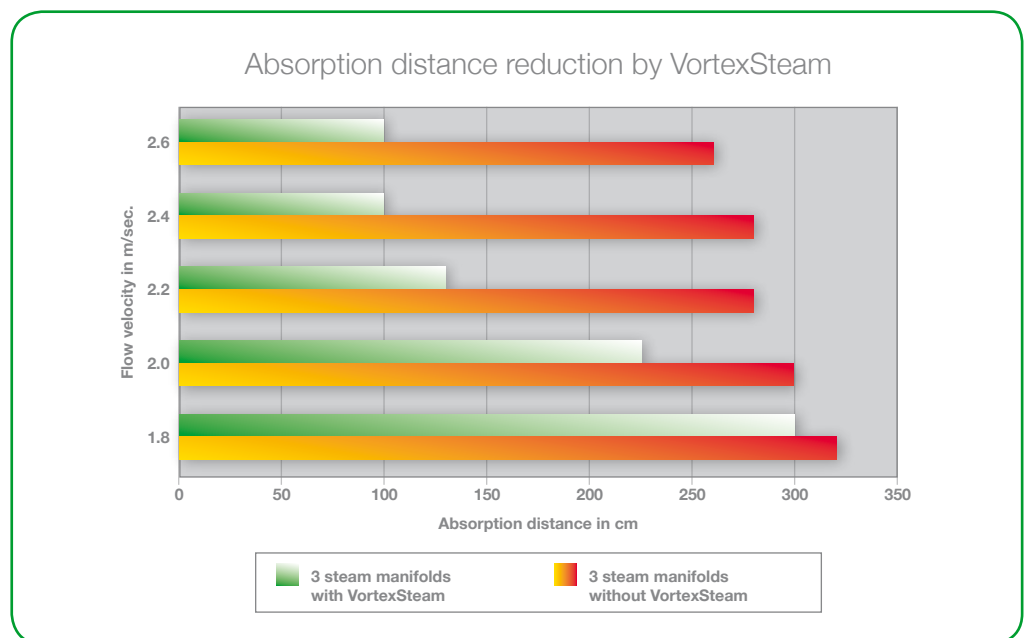


The generated steam is fed through the proven energy-optimised HygroMatik steam manifold. To shorten the absorption distance VortexSteam is placed in front of the steam manifolds in the direction of air flow. The specially developed VortexSteam module creates turbulences in the duct air flow and by so doing optimises the absorption of steam in the air.

The absorption distance is shortened without increasing condensation and without energy loss.

Over 50% shorter absorption distance due to VortexSteam

For flow velocities from 2.2 m/sec, VortexSteam can reduce the absorption distance by more than 50%.



VortexSteam is light, modular and easy to install. It is also ideal for retrofitting. In difficult, tight installation situations, VortexSteam is the energy-efficient solution.

Your HygroMatik Team will be pleased to provide you with more information:

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VortexSteam Tender Specification

VortexSteam – a system for reduction of humidification paths

VortexSteam is used to generate turbulent eddies in air ventilation and air conditioning ducts and optimizes the assimilation and homogeneous distribution of water vapor in the air to be humidified. **The humidification path is reduced without increased condensation and is therefore shortened without energy loss.**

The inter-connectable Vortex modules are **lightweight, modular and easy to install**. Ideal for retrofitting in existing systems and suitable also for difficult or restricted-space installation situations. Tested by the independent Institute of Hygiene ILH Berlin, the VortexSteam means planning security.

Vortex wall

The specially developed VortexSteam inter-connectable modules are supplied separately and are easily assembled into a perfectly fitting wall. The VortexSteam wall is mounted in the direction of the airflow directly in front of the steam manifolds in the humidification segment. Even large Vortex Steam-module walls are easily achievable through the use of additional reinforcing rails.

VortexSteam

- **Short humidifying paths** through optimized air flow turbulence
- **Minimal steam loss** by use of reduced -condensation surfaces
- **Simple installation** - ideal for retrofitting
- **A perfect fit** for all ventilation and air conditioning ducts
- **Inexpensive** and cost-effective in operation

Technical data

Air speed pre-entry VortexSteam	m / s
Number and arrangement of the modules (x * y)	pieces
Module dimensions Width x Depth x Height	150 x 60 x 150 mm
VortexSteam to manifold distance	100 mm
Ambient temperature	5 - 40 ° C
Pressure drop	10 Pa at an air velocity of 2.0 m / s
Module material	PS

Included Accessories:

Mounting rails, designed as guide rails for pull-out, or lift-out, Vortex module wall.

Material: stainless steel panels 1.4301 / 1 mm / depth 62 mm



HyLine

Electrode Steam Humidifiers

Technical Data HyLine

Type		Hy05	Hy08	Hy13	Hy17	Hy23	Hy30	Hy45	Hy60	Hy90	Hy116
Steam output	[kg/h]	5	8	13	17	23	30	45	60	90	116
Electrical supply		400V/3/N 50-60Hz*									
Electrical power	[kW]	3,8	6	9,8	12,8	17,3	22,5	33,8	2x22,5	2x33,8	2x43,5
Current	[A]	5,4	8,7	14,1	18,4	24,9	32,5	48,8	2x32,5	2x48,8	2x62,8
Fuse	[A]	3x6	3x10	3x16	3x20	3x35	3x35	3x63	6x35	6x63	6x63
Control		Basic, Comfort, Comfort Plus									
Control voltage		230 V									
Steam hose connection	[mm]	1x25	1x25	1x25	1x25	1x40	1x40	2x40	2x40	4x40	4x40
Condensate hose connection	[mm]	1x12	1x12	1x12	1x12	1x12	1x12	2x12	2x12	4x12	4x12
Empty weight	[kg]	13	13	20	20	22	28	39	47	70	70
Operational weight	[kg]	19	19	38	38	40	55	85	101	162	162
Dimensions	Height [mm]	480	480	650	650	650	707	785	707	785	785
	Width [mm]	438	438	520	520	520	560	650	927	1060	1060
	Depth [mm]	215	215	283	283	283	327	390	336	404	404
Water supply		1-10 bar, with connection 3/4"									
Fan unit, wall mounted		VG08	VG08	VG17	VG17	VG30	VG30	2xVG30	2xVG30	3xVG30	4xVG30

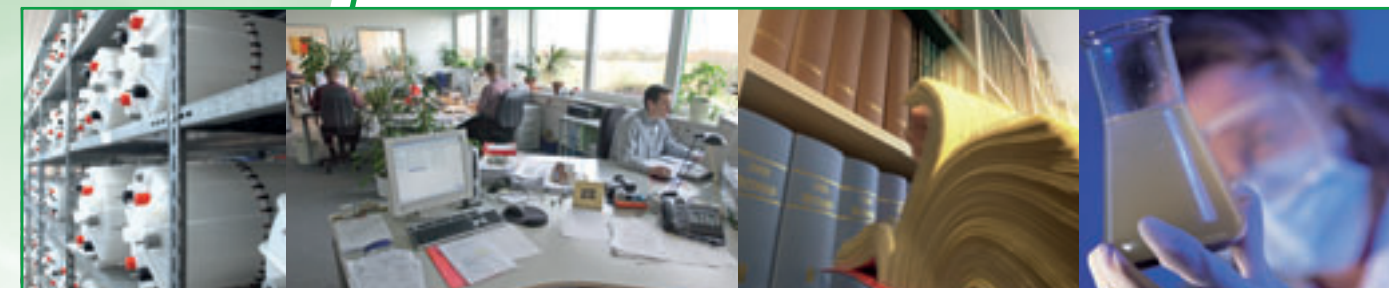
* Other voltages on request
Subject to technical amendments without notice



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HYGROMATIK®
WE HUMIDIFY THE AIR.

Certified Quality
VDE, GS and CE

Best by Design

- hygienic humidification with clean steam
- stainless steel cabinet
- optional Master-Slave operation
- high quality components
- very easy operation

Highly developed Microprocessors

The new microprocessor controls for HygroMatik steam humidifiers provide a modular set up and optional Master-Slave operation.

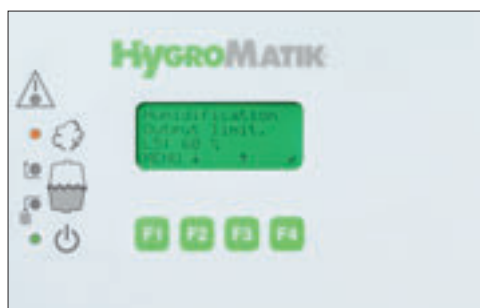
The HyLine-Basic unit provides

- proportional or on/off control
- automatic system test
- 5 LED's to indicate important operation information
- stand-by blow-down
- self-adjustment to the available water quality
- 2 potential free remote signals
- change-over to process humidification
- stand-by heating for rapid steam production
- integrated interface RS 485
- optional relay circuit board for 4 additional remote signals



The HyLine-Comfort unit includes additionally

- integrated PI control
- back-lit LC display
- 4 function keys for easy operation and programming
- change-over to process humidification via menu



HyLine-Comfort Plus additionally provides

- encoder for very easy operation and programming
- timer function
- optional remote control



Stainless Steel Outside, Proven Quality Inside

The HygroMatik HyLine includes 10 types with steam outputs of max. 5-116 kg/h, with optional Master-Slave operation up to 464 kg/h.

The HyLine humidifiers generate clean steam from standard tap water. Intelligent self-adjusting units choose the most economic mode of operation.

The cabinet is made entirely of corrosion-resistant stainless steel. The removable cover allows easy access for maintenance and a lock prevents unauthorized access.

HygroMatik supplies steam manifolds or fan units as required.

Proven high-quality components guarantee long cylinder standing times and a long life expectancy.



Replaceable large stainless steel electrodes guarantee rapid steam production. Quick-Fit, the special electrode fastening system, allows a quick electrode change without tools.

All units optional with

SuperFlush, the rinsing system for much longer mean time between services.

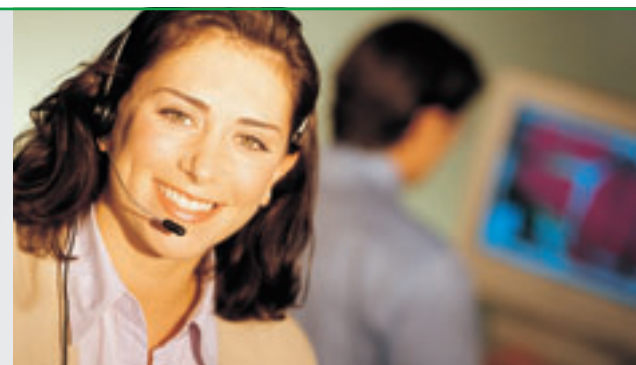
Star, the cylinder insert for a greatly increased electrode life expectancy in areas with highly conductive water.



The cylinder is split in the middle for easy opening and has a particularly large volume for long standing times. It can be opened easily, cleaned without chemicals and is immediately available for re-use.



The robust blow-down pump drains high volumes of scale particles which would otherwise collect in the cylinder. This prolongs cylinder standing times considerably and reduces maintenance.



Our Service for you

- HygroMatik distributors in more than 35 countries worldwide
- Technical Hotline Telephone
- Manuals and information material at www.hygromatik.com

Specification

Electrode Steam Humidifiers **HyLine-Comfort Plus**

Self generative high quality steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water.

VDE,GS and CE certified. Made in Germany.

To be connected to all standard water mains supplies.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature and age-resistant
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- Cylinder plastic insert which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **Cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Comfort Plus**

- automatic system test
- proportional or on/off control
- 2 integrated PI-controllers
- back-lit LC display
- 4 function keys
- encoder for very easy operation and programming
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to German VDI 6022**
- self-adjustment to available water quality
- integrated interface RS 485
- change-over to Process Humidification via menu

Optional

- relay circuit board for 4 additional signals choseable from 15 options
- remote control
- timer function

Specification

Electrode Steam Humidifiers **HyLine-Comfort**

Self generative high quality steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water.

VDE,GS and CE certified. Made in Germany.

To be connected to all standard water mains supplies.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature and age-resistant
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- Cylinder plastic insert which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **Cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Comfort**

- automatic system test
- proportional or on/off control
- 2 integrated PI-controllers
- back-lit LC display
- 4 function keys for easy operation and programming
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to German VDI 6022**
- self-adjustment to available water quality
- integrated interface RS 485
- change-over to Process Humidification via menu

Optional

- relay circuit board for 4 additional signals choseable from 15 options

Specification

Electrode Steam Humidifiers **HyLine-Basic**

Self generative high quality steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water.

VDE,GS and CE certified. Made in Germany.

To be connected to all standard water mains supplies.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature and age-resistant
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- Cylinder plastic insert which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **Cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Basic**

- automatic system test
- proportional or on/off control
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to German VDI 6022**
- integrated interface RS 485
- self-adjustment to the available water quality
- change-over to Process Humidification

Optional

- relay circuit board for 4 additional signals choseable from 15 options

Technical Data

Steam output	 kg/h (max.)
Electrical supply	/...../..... V/Phases/(N)
Control voltage	 V
Electrical power	 kW (max.)
Current	 A (max.)
Manufacturer	HygroMatik
Type	HyLine-..... (Basic, Comfort or Comfort Plus)

Accessories

- Steam manifold with condensate return

DN	 (25 or 40)
Length	 (220, 400, 600, 900, 1200 or 1450mm)
- alternatively Fan unit

Recirculation air	 m ³ /h
Manufacturer	HygroMatik
Type	VG
- Steam hose

DN	 (25 or 40)
Length	 m

Condensate hose	
Length	 m

Drain hose	
Length	 m



CompactLine

Electrode Steam Humidifiers

Technical Data CompactLine

Type		C06	C10	C17	C22	C30	C45	C58
Steam output	[kg/h]	6	10	17	22	30	45	58
Electrical supply		400V/3/N 50-60Hz*						
Electrical power	[kW]	4,5	7,5	12,8	16,5	22,5	33,8	43,5
Current	[A]	6,5	10,8	18,4	23,8	32,5	48,8	62,8
Fuse	[A]	3x10	3x16	3x20	3x35	3x35	3x63	3x63
Control type		Basic, Comfort, Comfort Plus						
Control voltage		230 V						
Steam hose connection	[mm]	1x25	1x25	1x25	1x40	1x40	1x40**	2x40
Condensate hose connection	[mm]	1x12	1x12	1x12	1x12	1x12	1x12***	2x12
Empty weight	[kg]	10	12	19	19	20	22	31
Operational weight	[kg]	13	18	37	37	38	49	77
Dimensions	Height [mm]	438	480	652	652	652	706	789
	Width [mm]	370	406	472	472	472	519	608
	Depth [mm]	187	216	282	282	282	326	391
Water supply		1 to 10 bar, for connection 3/4"						
Fan unit, wall mounted		VG08	VG17	VG17	VG30	VG30	2xVG30	2xVG30

* Other voltages on request

** Inclusive T-piece for connection of two manifolds

*** Inclusive T-pieces for condensate return from both manifolds

Subject to technical amendments without notice

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HygroMATIK®
WE HUMIDIFY THE AIR.

Certified Quality
VDE, GS and CE

Best By Design

- hygienic humidification with clean steam
- space-saving stainless steel design
- re-usable steam cylinder
- intelligent microprocessor controls
- highly efficient at a very competitive price

Not only space-saving

The name says it all.

The HygroMatik CompactLine is compact and space-saving.

It includes 6 unit sizes with steam capacities of max 6-58 kg/h, with optional Master-Slave operation up to 464 kg/h.

Intelligent self-adjustment to water quality

The new intelligent HygroMatik microprocessor controls include the option of modular upgrading. They accept all standard control signals. Self-adjusting, they choose the most economic mode of operation for the available water quality and monitor the complete humidification process.

Remote control and Master-Slave operation optional.

CompactLine-Basic provides

- proportional or on/off control
- automatic system test
- 5 LED's to indicate important operation information
- 2 potential free remote signals
- stand-by blow-down and stand-by heating
- integrated interface RS 485
- optional relay circuit board for 4 additional potential free remote signals
- change-over to process humidification

CompactLine-Comfort includes additionally

- integrated PI control
- back-lit LC display
- 4 function keys for easy operation and programming
- change-over to process humidification via menu

CompactLine-Comfort Plus provides as special extras

- encoder for very easy operation and programming
- timer function

Quality down to the smallest detail

The robust heavy-duty blow-down pump drains particles of scale. This reduces maintenance.

The large area stainless steel electrodes guarantee long cylinder standing times and are replaceable without tools.

The cylinder can be opened easily, cleaned without chemicals and is immediately available for re-use. Environmentally friendly and money-saving.



Designed for easy maintenance and long life

The modern stainless steel cabinet is long-lived and corrosion-resistant. Simply removing the cover provides all round accessibility. The steam hose adapter, the manual water drain and snap-on-hose connections make cylinder maintenance quick and easy.



Optional:

SuperFlush, the rinsing system which can considerably increase cylinder standing times. Removes even more scale deposits from the cylinder bottom by means of an induced eddy.



Optional:

Star, the insert between the electrodes lengthens the current path and therefore the life expectancy of the electrodes. For areas with highly conductive water.



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- Technical Hotline Telephone
- Manuals and information material at www.hygromatik.com

Specification

Electrode Steam Humidifiers **CompactLine-ComfortPlus**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water. **VDE,GS and CE certified. Made in Germany.**

To be connected to all standard water mains supplies.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature resistant and robust
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- CylinderStar* which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **ComfortPlus****

- automatic system test
- proportional or on/off control
- integrated PI-control
- back-lit LC display
- 4 function keys
- encoder for very easy operation and programming
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to German VDI 6022**
- self-adjustment to available water quality
- integrated interface RS 485
- change-over to Process Humidification via menu

Optional

- relay circuit board for 4 additional signals choseable from 15 options
- remote control
- timer function

* This option does not apply for C01, C02 and C06.

** ComfortPlus for C01 and C02 not intended.

Specification

Electrode Steam Humidifiers **CompactLine-Comfort**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water. **VDE,GS and CE certified. Made in Germany.**
To be connected to all standard water mains supplies.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature resistant and robust
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- CylinderStar* which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Comfort**

- automatic system test
- proportional or on/off control
- integrated PI-control
- back-lit LC display
- 4 function keys for easy operation and programming
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to German VDI 6022**
- self-adjustment to available water quality
- integrated interface RS 485
- change-over to Process Humidification via menu

Optional

- relay circuit board for 4 additional signals choseable from 15 options

* This option does not apply for C01, C02 and C06.

Specification

Electrode Steam Humidifiers **CompactLine-Basic**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water. **VDE,GS and CE certified. Made in Germany.**
To be connected to all standard water mains supplies.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature resistant and robust
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- CylinderStar* which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Basic**

- automatic system test
- proportional or on/off control
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to German VDI 6022**
- self-adjustment to available water quality
- integrated interface RS 485
- change-over to Process Humidification

Optional

- relay circuit board for 4 additional signals choseable from 15 options

* This option does not apply for C01, C02 and C06.

Technical Data

Steam output	 kg/h (max.)
Electrical supply	/...../..... V/Phases/(N)
Control voltage	 V
Electrical power	 kW(max.)
Current	 A (max.)
Manufacturer	HygroMatik
Type	CompactLine-..... (Basic, Comfort or Comfort Plus)

Accessories

- Steam manifold with condensate return

DN	 (25 or 40)
Length	 (220, 400, 600, 900, 1200 or 1450mm)

- alternatively fan unit

Recirculation air	 m ³ /h
Manufacturer	HygroMatik
Type	VG

- Steam hose

DN	 (25 or 40)
Length	 m

Condensate hose

Length	 m
--------	---------

Drain hose

Length	 m
--------	---------

Certified Quality
VDE, GS and CE

MiniSteam

Electrode Steam Humidifiers
for Direct Room Humidification

The HygroMatik MiniSteam is a steam humidifier for direct room humidification. The MiniSteam generates clean mineral-free steam from standard tap water. The quiet integrated fan distributes the steam evenly.

The MiniSteam has a maximum steam output of 4,8 or 10 kg/h which is just right for the humidification of small and medium offices, production and storage facilities.

The corrosion-resistant cabinet is entirely made of stainless steel. The cover is removable for easy maintenance and lockable to prevent unauthorized access.



- Hygienic humidification with mineral free, clean steam
- Modern design
- Re-usable steam cylinder, simply open, clean and re-use
- Large area stainless steel electrodes. Replaceable without tools
- Robust heavy-duty blow-down pump
- Self-adjustment to the available water quality
- Optional as
MiniSteam-Basic or
MiniSteam-Comfort

HygroMatik **MiniSteam-Comfort**
Steam output max. 10 kg/h



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MiniSteam

Electrode Steam Humidifiers for Direct Room Humidification

The HygroMatik MiniSteam processes all standard control signals and is self-adjusting to the available water quality.

MiniSteam-Basic offers

- proportional or on/off control
- automatic system test
- 5 LED's to indicate important operation information
- 2 potential free remote signals
- integrated interface RS 485
- stand-by blow-down and stand-by heating

MiniSteam-Comfort offers additionally

- back-lit LC display
- 4 function keys for easy operation and programming
- integrated PI control



Technical Data MiniSteam

Type		MS05	MS05	MS10
Steam output	[kg/h]	4,8	5	10
Electrical supply*		230V/1/N/50-60Hz		400V/3/N 50-60Hz*
Electrical power	[kW]	3,6	3,8	7,5
Current	[A]	15,7	5,4	10,8
Fuse	[A]	1 x 16	3 x 6	3x16
Control		Basic, Comfort		
Control voltage		230 V		
Empty weight	[kg]	11	11	13
Operational weight	[kg]	14	14	19
Dimensions	Height [mm]	471	471	561
	Width [mm]	373	373	407
	Depth [mm]	178	178	208
Water supply		1-10 bar, with connection 3/4"		
Water drain	[mm]	into funnel (on site)		
Air circulation, fan	[m3/h]	66	66	165

* Other voltages on request
Subject to technical amendments without notice

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WE HUMIDIFY THE AIR.

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A member of the **spirax** / **sarco** group

Specification

Electrode Steam Humidifiers **MiniSteam-Comfort** for Direct Room Humidification

Self generative steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water. **VDE,GS and CE certified. Made in Germany.**
To be connected to all standard water mains supplies.

Includes as standard

- integrated quiet fan unit for even distribution of steam into the room
- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature and age-resistant
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- Cylinder plastic insert which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **Cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Comfort**

- automatic system test
- proportional or on/off control
- 2 integrated PI-controllers
- back-lit LC display
- 4 function keys for easy operation and programming
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- self-adjustment to available water quality
- integrated interface RS 485
- change-over to Process Humidification via menu

Optional

- relay circuit board for 4 additional signals choseable from 15 options

Specification

Electrode Steam Humidifiers **MiniSteam-Basic** for Direct Room Humidification

Self generative steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates mineral free clean steam from standard tap water.

VDE,GS and CE certified. Made in Germany.

To be connected to all standard water mains supplies.

Includes as standard

- integrated quiet fan unit for even distribution of steam into the room
- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature and age-resistant
- large area stainless steel electrodes for long standing times and quick replacement without tools
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- steam hose adapter for quick and easy cylinder removal
- easy accessible wiring terminals
- removable cover providing all round component accessibility

Optional

- Cylinder plastic insert which can considerably increase cylinder life expectancy of the electrodes in areas of highly conductive water
- **Cylinder rinsing system** which can considerably increase cylinder standing times

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Basic**

- automatic system test
- proportional or on/off control
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- self-adjustment to available water quality
- integrated interface RS 485
- change-over to Process Humidification

Optional

- relay circuit board for 4 additional signals choseable from 15 options

Technical Data

Steam output kg/h (max.)
Electrical supply V/Phases/(N)
Control voltage V
Electrical power kW(max.)
Current A (max.)
Manufacturer HygroMatik
Type MiniSteam-..... (Basic or Comfort)

Accessories

Drain hose
Length m



Technical Data HeaterLine

Type		HL06	HL09	HL12	HL18	HL24	HL27	HL30	HL36	HL45	HL60 2x HL30	HL70 2x HL36	HL80 HL36+HL45	HL90 2x HL45
Steam output	[kg/h]	6	9	12	18	24	27	30	36	45	60	72	81	90
Number of units		1	1	1	1	1	1	1	1	1	2	2	2	2
Electrical supply/unit		400V/3/N 50-60Hz*												
Electrical power/unit	[kW]	4,5	6,8	9,0	13,5	18,0	20,3	22,5	27,0	33,8	22,5	27,0	1x27,0/1x33,8	33,8
Current/unit	[A]	11,3	16,9	19,5	29,3	39,0	29,3	39,0	58,5	58,5	39,0	58,5	58,5	58,5
Fuse/unit	[A]	3x16	3x20	3x25	3x35	3x50	3x35	3x50	3x63	3x63	3x50	3x63	3x63	3x63
Control/unit		Basic, Comfort, Comfort Plus												
Number of heating elements/unit		1	1	2	2	4	3	5	4	5	5	4	1x4, 1x5	5
Steam hose connection/unit	[mm]	1x25**	1x25**	1x25**	1x40	1x40	1x40	1x40			1x40 mm, T-pieces included			
Condensate hose connection/unit	[mm]	1x12	1x12	1x12	1x12	1x12	1x12	1x12			1x12 mm, T-pieces included			
Empty weight/unit	[kg]	35	35	36	36	38	37	46	45	46	46	45	1x45, 1x46	46
Operational weight/unit	[kg]	48	48	49	49	51	50	72	71	72	72	71	1x71, 1x72	72
Dimensions/unit	Height [mm]	865	865	865	865	865	865	900	900	900	900	900	900	900
	Width [mm]	645	645	645	645	645	645	685	685	685	685	685	685	685
	Depth [mm]	335	335	335	335	335	335	395	395	395	395	395	395	395
Water supply		Fully demineralised water/cleaned condensate/ partially softened or standard tap water, 1 to10 bar, for connection 3/4"												
Fan unit, wall mounted/unit		VG08	VG17	VG17	VG30	VG30	VG30	VG30	2xVG30	2xVG30	VG30	2xVG30	2xVG30	2xVG30
Air circulation of fan unit/unit	[m3/h]	160	185	185	350	350	350	350	2x350	2x350	350	2x350	2x350	2x350

*other voltages on request
 ** reduction DN40 to DN25 included
 Subject to technical amendments without notice

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A member of the **spirax** / **sarco** group

HeaterLine

Heater Type Steam Humidifiers
 for All Water Qualities



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Compact. Easy Maintenance. Stainless Steel.

The new HeaterLine series offers compact unit dimensions and extremely low maintenance. The cylinders and cabinets are made of high-quality, high-grade corrosion resistant stainless steel.

The demountable cover offers easy access to the components from three sides.

HeaterLine is offered in 8 different unit types with maximum steam generating capacities of 6-90 kg/h available in two compact sized dimensions. It can be operated with demineralized, softened or tap water.

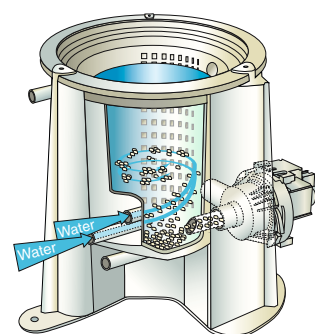


Combined Rinsing and Scale Collecting System

During operation with demineralized or tap water, the minerals contained in the water are turned into scale deposits.

The integrated rinsing system induces an eddy during the partial blow-down. Thus scale particles are whirled up and can be expelled using the powerful blow-down pump. The amounts of scale deposits collected in the filter are clearly reduced.

The remaining scale deposits are accumulated in the sturdy removable filter and can be removed without any chemicals during maintenance. Connectors, cylinder tension ring and steam hose adapter make maintenance quick and easy. The system is integrated into the unit, permitting for HeaterLines's compact dimensions, even when using tap water. When using demineralized water, there are practically no deposits so that servicing requirements are reduced to a minimum.



In the high-grade stainless steel cylinder, 1 to 5 high-quality, stainless steel heating elements heat up the water according to the immersion boiler principle. The float switch and mechanical over temperature sensor work together allowing control of the water level and providing protection against dry-run.



The heavy-duty blow-down pump supports the combined rinsing and scale collection system by draining the scale deposits. The deposits are discharged, before accumulating in the first place. This reduces the quantity of scale in the filter and lengthens servicing intervals.



Our service for you

- HygroMatik distributors in more than 35 countries worldwide
- Technical Hotline Telephone
- Manuals and information material at www.hygroamatik.com

Exact Control. Fast Response.

High performance microprocessors control and monitor the new HygroMatik heater type steam humidifiers ensuring outstanding controllability and fast precise response.

During operations with demineralized water, the Comfort and Comfort Plus controls offer a controllability of up to $\pm 1\%$. The units intelligently adapt to the existing water quality. Stand-by blow-down feature prevents standing water in the cylinder according to German VDI 6022. The HeaterLine can be controlled proportionally within a range of 5-100% of the rated power output.

The controls accept all standard control signals. **Remote control** or **Master-Slave operation** optional.

Certified Quality
VDE, GS and CE

The Microprocessor Controls Basic

- proportional or on/off control
- automatic system test
- 5 LED's to indicate important operation information
- 2 potential free remote signals
- stand-by heating for rapid steam production
- integrated interface RS485



The Comfort units include additionally

- integrated PI control
- back-lit LC display
- 4 function keys for easy operation and programming

Comfort Plus additionally provides

- encoder for very easy operation and programming
- timer function



Best by Design

- compact and space-saving – even when using tap water
- the new rinsing and scale collecting system allows for easy maintenance
- cabinet and steam cylinder are made of high-grade corrosion resistant stainless steel
- proportional control of up to $\pm 1\%$
- hygienic humidification with mineral-free steam

Specification

Heater Type Steam Humidifiers **HeaterLine-Comfort Plus**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates **mineral free clean steam from demineralised, softened or standard tap water**. **VDE,GS and CE certified. Made in Germany.**

Includes as standard

- **re-usable stainless steel steam cylinder** - cleanable and available for re-use
- high-quality replaceable heating elements
- **combined rinsing and scale collection system**. During operation with softened or tap water the system rinses scale particles. The amount of scale deposits collected in the filter is clearly reduced. The remaining scale deposits are accumulated in the removable filter and can be removed during maintenance. The system is integrated into the unit therefore the dimensions of the HeaterLine are compact even when using tap water. When using demineralised water maintenance is reduced to a minimum.
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- connectors, cylinder tension ring and steam hose adapter for quick and easy cylinder removal
- protection against dry-run
- removable cover providing all round component accessibility

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Comfort Plus**

- automatic system test
- proportional or on/off control
- 2 integrated PI-controllers
- controllability of up to +/- 1%
- proportional controllability within a range of 0-100% of the rated power output
- 5 LED's to indicate important operation information
- back-lit LC display
- **encoder for very easy operation and programming**
- 4 function keys
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- adjustment of blow-down via menu
- stand-by heating for rapid steam production
- integrated interface RS 485

Optional

- relay circuit board for 4 additional signals choseable from 15 options
- remote control
- timer function

Specification

Heater Type Steam Humidifiers **HeaterLine-Comfort**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates **mineral free clean steam from demineralised, softened or standard tap water**.
VDE,GS and CE certified. Made in Germany.

Includes as standard

- **re-usable stainless steel steam cylinder** - cleanable and available for re-use
- high-quality replaceable heating elements
- **combined rinsing and scale collection system**. During operation with softened or tap water the system rinses scale particles. The amount of scale deposits collected in the filter is clearly reduced. The remaining scale deposits are accumulated in the removable filter and can be removed during maintenance. The system is integrated into the unit therefore the dimensions of the HeaterLine are compact even when using tap water. When using demineralised water maintenance is reduced to a minimum.
- **heavy-duty blow-down pump** which also drains particles of scale and thereby prolongs cylinder standing times
- connectors, cylinder tension ring and steam hose adapter for quick and easy cylinder removal
- protection against dry-run
- removable cover providing all round component accessibility

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Comfort**

- automatic system test
- proportional or on/off control
- 2 integrated PI-controllers
- controllability of up to +/- 1%
- proportional controllability within a range of 0-100% of the rated power output
- 5 LED's to indicate important operation information
- back-lit LC display
- **4 function keys for easy operation and programming**
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- adjustment of blow-down via menu
- stand-by heating for rapid steam production
- integrated interface RS 485

Optional

- relay circuit board for 4 additional signals choseable from 15 options

Specification

Heater Type Steam Humidifiers **HeaterLine-Basic**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**, easy to install and to maintain. Automatically generates **mineral free clean steam from demineralised, softened or standard tap water**. **VDE,GS and CE certified. Made in Germany.**

Includes as standard

- **re-usable stainless steel steam cylinder** - cleanable and available for re-use
- high-quality replaceable heating elements
- **combined rinsing and scale collection system**. During operation with softened or tap water the system rinses scale particles. The amount of scale deposits collected in the filter is clearly reduced. The remaining scale deposits are accumulated in the removable filter and can be removed during maintenance. The system is integrated into the unit therefore the dimensions of the HeaterLine are compact even when using tap water. When using demineralised water maintenance is reduced to a minimum.
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- connectors, cylinder tension ring and steam hose adapter for quick and easy cylinder removal
- protection against dry-run
- removable cover providing all round component accessibility

Highly efficient **control with 16 bit processor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **Basic**

- automatic system test
- proportional or on/off control
- proportional controllability within a range of 0-100% of the rated power output
- 5 LED's to indicate important operation information
- 2 potential free remote signals, one of them programmable with 15 options
- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- adjustment of blow-down
- stand-by heating for rapid steam production
- integrated interface RS 485

Optional

- relay circuit board for 4 additional signals choseable from 15 options

Technical Data

Steam output kg/h (max.)
Electrical supply / / V/Phases/(N)
Control voltage V
Electrical power kW (max.)
Current A (max.)
Manufacturer HygroMatik
Type HeaterLine-..... (Basic, Comfort or Comfort Plus)

Accessories

- Steam manifold with condensate return
DN (25 or 40)
Length (220, 400, 600, 900, 1200 or 1450mm)
- alternatively Fan unit
Recirculation air m³/h
Manufacturer HygroMatik
Type VG
- Steam hose
DN (25 or 40)
Length m

Condensate hose
Length m

Drain hose
Length m



HeaterCompact

Resistive steam humidifier

HygroMatik®
40 YEARS
HUMIDIFICATION

HeaterCompact technical data

Type	HC03	HC06	HC06	HC09	HC06P	HC09P	HC12	HC18	HC27
Steam output [kg/h]	3	6	6	9	6	9	12	18	27
Electrical connection*	230V/1/N		400V/3/N 50-60Hz						
Electrical power [kW]	2,25	4,5	4,5	6,8	4,5	6,8	9,0	13,5	20,3
Current consumption [A]**	9,8	19,6	11,3	16,9	11,3	16,9	19,5	29,3	29,3
Fuse [A]	1x10	1x20	3x16	3x20	3x16	3x20	3x25	3x35	3x35
Controller	Basic, Comfort and Comfort Plus								
Number of steam cylinders	1								
Number of heaters	1	1	1	1	1	1	2	2	3
Steam hose connection	1x25mm***							1x40mm	
Cond. hose connection	1x12mm								
Empty weight [kg]	16	16	16	16	25	25	26	26	27
Operating weight [kg]	18	18	18	18	43	43	44	44	45
Height [mm]	562				695				
Width [mm]	427				490				
Depth [mm]	257				306				
Water supply	Fully demineralised water / cleaned condensate: 1–10 bar, 13mm hose partially softened water / tap water of varying qualities 1–10 bar. for 3/4” outer thread								

* Other voltages upon request.

** Non-uniform phase loading.

*** Incl. reducing piece.

We reserve the right to make technical changes.

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Steam manifold

Small - compact - economic

The HeaterCompact offers compact unit measurements together with optimum component accessibility - saving space and time during installation and service. With a corrosion-resistant stainless-steel housing the HeaterCompact can be operated with completely deionised water, softened water or tap water. This permits flexible planning and installation - at a particularly attractive price-performance ratio.



Precise control

Thanks to its highly developed microprocessor controls, the HygroMatik HeaterCompact offers quick control responses and high control accuracy up to +/- 1%.

The intelligent controller self adjusts to match the particular application and water quality. The HeaterCompact can be controlled proportionally in the range 5 - 100% of the respective nominal power, which makes it particularly efficient even at very low power requirements.

The controllers process all established control signals. Master-slave operation and remote control options are available.

Quality Certified
VDE, GS and CE

All signals are set to green

- compact and space-saving
- hygienic and safe
- extremely easy to maintain
- reusable cylinder
- flexible use with different water qualities
- energy efficient
- attractive price-performance ratio

Reusable plastic cylinder

- easy to maintain thanks to simple cylinder clips and low weight
- energy-efficient thanks to low heat radiation



Microprocessor controls

- Basic:**
- proportional or one-step control
 - automatic system test
 - 5 LEDs for indicating operating states
 - 2 potential free signals
 - standby heating for quick steam production
 - RS485 serial interface

Comfort units offer in addition

- integrated PI control
- comprehensive parameter settings for optimum operation
- 4 line illuminated display
- 4 function keys for easy operation and programming

Comfort Plus also includes

- rotary pushbutton encoder for particularly simple operation and programming
- timer function



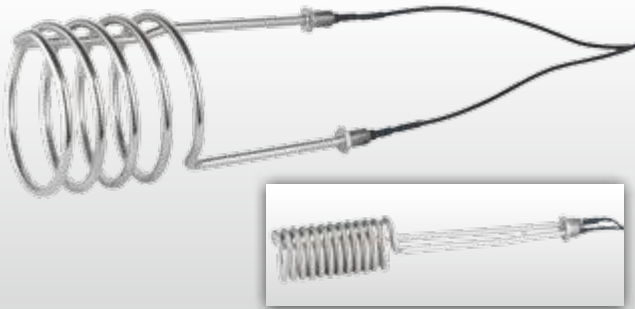
Mineral-free steam - permanent and safe

The HeaterCompact heats the water in the energy-efficient plastic cylinder based on an immersion heater principle. Hence with fully deionised water steam production is continuous without any blowdown. Safety plus: all heater units are equipped with mechanical overheat protection on the heater and a float switch with level control - thus guaranteeing process safety.



With innovative SuperFlush cylinder rinse system

- ✓ clear increase in cylinder service cycle



- immersion heater based heating principle
- safe due to overheat protection at the heater with drying out protection
- practically maintenance-free when operated with fully deionised water plus continuous steam production for high con-trol accuracy



Our service to you

- personal on-site care provided by qualified field service employees
- technical hotline: 0870 4685463 (0870 HOTLINE)
- HygroMatik service partners throughout Germany, Ireland and the UK - including in your vicinity
- operating manuals, planning data and workshops available online at www.hygromatik.co.uk

Specification

Heater Type (Resistive) Steam Humidifiers **HeaterCompact ComfortPlus**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**. Space-saving, easy to install and with minimal servicing requirements. The HeaterCompact can be operated with fully deionised water, softened water or tap water. The HeaterCompact is **VDE, GS and CE certified**. With innovative SuperFlush cylinder rinse system for a significant increase in the cylinder service cycle.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature and age-resistant
- high grade replaceable heater elements
- **SuperFlush limescale management due to integrated cylinder rinse system**
- **heavy-duty blow-down pump** to prevent standing water in the cylinder
- steam hose adapter and plug-type connections for quick and easy access to all components
- electronic level control and double dry-run protection
- removable cover providing all round component accessibility

Highly efficient **control with 16-Bit microprocessor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

Microprocessor control type **ComfortPlus**

- integrated PI control
- comprehensive parameter settings for optimum operation
- rotary pushbutton encoder for particularly simple operation and programming
- 4 line illuminated display
- 4 function keys for easy operation and programming
- timer function
- high control accuracy up +/- 1%
- proportional controllability within a range of 5-100% of the rated power output
- processes all established control signals
- proportional or one-step control
- automatic system test to check all functions and appliance components
- 5 LEDs for indicating operating and service states
- 2 potential free remote signals
- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- standby heating for quick steam production
- integrated interface RS 485

Optional

- relay circuit board for 4 additional signals selectable from 15 options
- remote control

Specification

Heater Type (Resistive) Steam Humidifiers **HeaterCompact Comfort**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**. Space-saving, easy to install and with minimal servicing requirements. The HeaterCompact can be operated with fully deionised water, softened water or tap water. The HeaterCompact is **VDE, GS and CE certified**. With innovative SuperFlush cylinder rinse system for a significant increase in the cylinder service cycle.

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- high grade replaceable heater elements
- **SuperFlush limescale management due to integrated cylinder rinse system**
- **heavy-duty blow-down pump** to prevent standing water in the cylinder
- steam hose adapter and plug-type connections for quick and easy access to all components
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- automatic system test to check all functions and appliance components
- 5 LEDs for indicating operating and service states
- 2 potential free remote signals
- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- standby heating for quick steam production
- integrated interface RS 485

Optional

- relay circuit board for 4 additional signals selectable from 15 options
- remote control

Specification

Heater Type (Resistive) Steam Humidifiers **HeaterCompact Basic**

Self generative compact steam humidifier, for wall mounting. Completely assembled in corrosion-resistant **stainless steel cabinet**. Space-saving, easy to install and with minimal servicing requirements. The HeaterCompact can be operated with fully deionised water, softened water or tap water. The HeaterCompact is **VDE, GS and CE certified**. With innovative SuperFlush cylinder rinse system for a significant increase in the cylinder service cycle.

Includes as standard

- **re-usable steam cylinder** - cleanable without chemicals and available for re-use, temperature and age-resistant
- high grade replaceable heater elements
- **SuperFlush limescale management due to integrated cylinder rinse system**
- **heavy-duty blow-down pump** to prevent standing water in the cylinder
- steam hose adapter and plug-type connections for quick and easy access to all components
- electronic level control and double dry-run protection
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Highly efficient **control with 16-Bit microprocessor** for rapid steam production, optimum energy efficiency and low-maintenance operation. Permanently monitors the complete humidification process for comprehensive operational safety. **Accepts all standard control signals** and provides modular set up.

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- automatic system test to check all functions and appliance components
- 5 LEDs for indicating operating and service states
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- **stand-by blow-down** to eliminate standing water **according to VDI 6022**
- standby heating for quick steam production
- integrated interface RS 485

Optional

- relay circuit board for 4 additional signals selectable from 15 options

Technical Data

Steam output	 kg/h (max.)
Electrical supply	/...../..... V/Phases/(N)
Control voltage	 V
Electrical power	 kW (max.)
Current	 A (max.)
Manufacturer	HygroMatik
Type	HeaterCompact..... (Basic, Comfort or Comfort Plus)

Accessories

- Steam manifold with condensate return
 - DN (25 or 40)
 - Length (220, 400, 600, 900, 1200 or 1500mm)
- alternatively Fan unit
 - Recirculation air m³/h
 - Manufacturer HygroMatik
 - Type VG
- Steam hose
 - DN (25 or 40)
 - Length m
 - Condensate hose
 - Length m
 - Drain hose
 - Length m

Steam Humidifiers

as OEM kit units

In conditioning units, refrigerated counters, baking ovens, fermentation rooms and many more applications the HygroMatik DBE and KDB provide optimally controlled air humidity with mineral-free clean steam.

In Spa applications the compact space-saving OEM kit units provide e. g. steam baths with evenly controlled steam.

The high-grade ready-to-connect components and tried-and-tested technology ensure easy installation and high endurance.



DBE Electrode Steam Humidifiers

- steam output from 1 to 45 kg/h
- for use with tap water
- re-usable steam cylinder
- large area stainless steel electrodes for long standing times - replaceable without tools
- robust heavy-duty blow-down pump
- rapid steam production
- proportional or on/off microprocessor control
- operational safety through permanent supervision of all functions

KDB Heater Type Steam Humidifiers

- steam output max. 2,0 kg/h
- for all water qualities up to 15°dH
- for connection to existing control
- minimal maintenance when operated with fully demineralised water
- high-grade stainless steel design
- constant steam production when operated with fully demineralised water
- double security through float switch and bimetallic cut-off



HYGROMATIK®
WE HUMIDIFY THE AIR.

Technical Data OEM kit units



Technical Data DBE

Type		DBE01	DBE02	DBE06	DBE10	DBE17	DBE30	DBE45
Steam output	[kg/h]	1	2	6	10	17	30	45
Electrical supply *		230V/1/N		400V/3/N 50-60 Hz				
Electrical power	[kW]	0,75	1,5	4,5	7,5	12,8	22,5	33,8
Current	[A]	3,3	6,5	6,5	10,8	18,4	32,5	48,8
Fuse	[A]	1x6	1x10	3x10	3x16	3x25	3x35	3x63
Control		L						
Control voltage	[V]	230						
Steam hose connection	[mm]	1x25	1x25	1x25	1x25	1x25	1x40	1x40
Condensate hose connection	[mm]	1x9	1x9	1x9	1x12	1x12	1x12	2x12
Empty weight	[kg]	4,5	5	7	8	11	12	15
Operational weight	[kg]	6	7	12	15	29	30	60
Dimensions	Height [mm]	320	300	344	390	575	575	667
	Width [mm]	252	252	252	252	328	328	330
	Depth [mm]	175	195	175	175	254	254	316
Water supply		1 to 10 bar with connection for 3/4"						

*Other voltages on request
Subject to technical amendments without notice



Technical Data KDB

Steam output	[kg/h]	2,0
Electrical supply		230V/1/N
Electrical power	[kW]	1,5
Current	[A]	8,5
Fuse	[A]	10
Control voltage	[V]	230
Steam hose connection	[mm]	1x25
Overflow connection	[mm]	1x12
Empty weight	[kg]	4,5
Operational weight	[kg]	ca. 6
Feed water		all water qualities up to 15° dH
Dimensions	Height [mm]	255
	Width [mm]	195
	Depth [mm]	277
Water supply		1-10 bar for connection 3/4"

Subject to technical amendments without notice

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A member of the **spirax** / **sarco** group

SuperFlush

Innovative Zylinderspüleinrichtung.

Kann Zylinderstandzeiten deutlich verlängern.

Bei einer Gesamthärte von 9,5°dH (Carbonhärte 6,5°dH) wurde z.B. eine Verdopplung erreicht.*

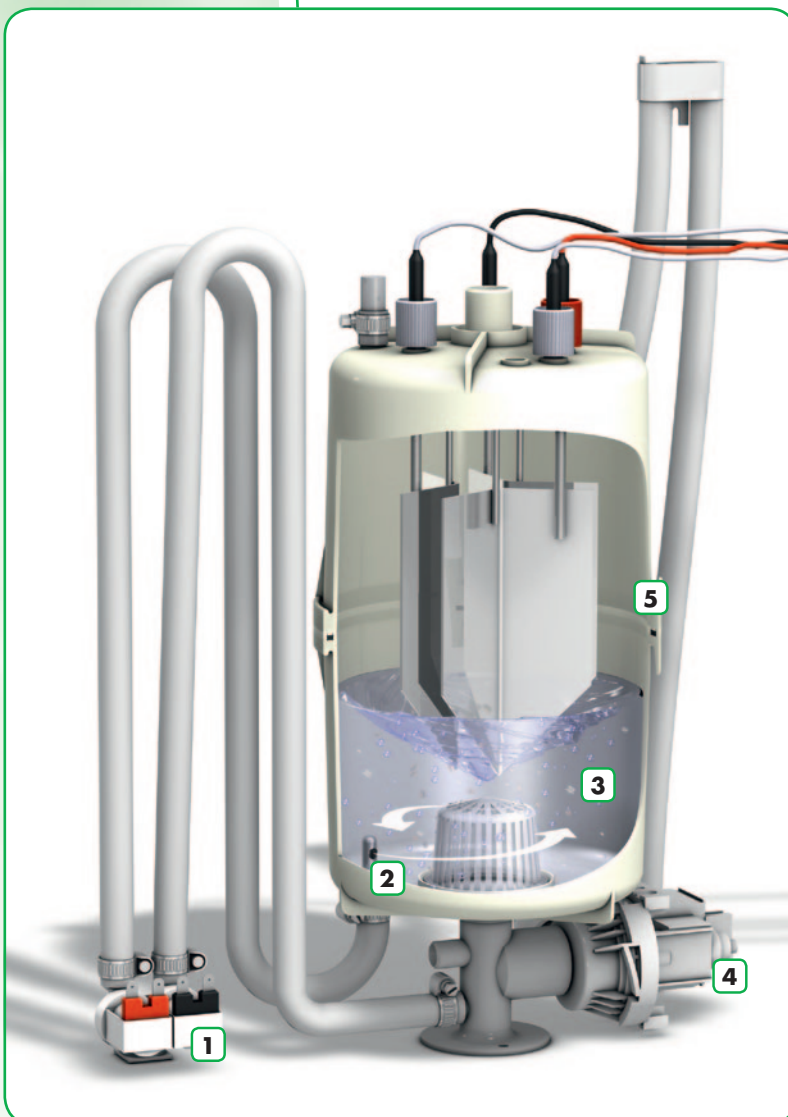
Während der Abschlämmung wirbelt ein druckverstärkter Wasserstrahl Härtebildner vom Zylinderboden auf und sorgt so für ein verbessertes Austragen der verkleinerten und aufgewirbelten Härtebildner. Der Wasserverbrauch bleibt dadurch unverändert.

Innovative cylinder rinsing system.

Considerably extends cylinder standing time.

For example at a total hardness of 9,5°dH (carbonate hardness 6,5°dH) a doubling of the maintenance interval was achieved.*

While draining, a pressurised water jet makes scale laying at the cylinder bottom swirl, creating thus the optimal conditions for discharging lime scale, keeping the water consumption unchanged.



① Doppelmagnetventil mit Verbindung zum Wassereinlass und zur SuperFlush Spezial-Düse.
Double solenoid valve connected to water inlet and SuperFlush nozzle.

② Spezial-Düse
Nozzle

③ Zusätzliche Turbulenzen im Zylinderwasser erhöhen die Menge der abgeschlammten Härtebildner.
Additional turbulence in the cylinder water increases the amount of scale being drained.

④ Robuste Abschlämpumppe befördert Härtebildner in den Ablauf.
Heavy duty blow-down pump drains scale deposits.

⑤ In der Mitte geteilter Dampfzylinder. Einfach öffnen, reinigen, weiterverwenden.
Steam cylinder, splits in the middle. Simply open, clean and re-use.

Optional auch mit getaktetem Wasserstrahl für einen noch effektiveren Spülprozess erhältlich.

Option available with cyclic mode operation. Rinse cycle now more effective thanks to pulsing water jet.

* gemäß Langzeitstudie: Vergleich Dauerbetrieb mit und ohne SuperFlush.

* according to long-time study: Comparing continuous operation with and without SuperFlush.

Bestellübersicht Part numbers

Bestellung Luftbefeuchter mit eingebautem SuperFlush:
 Luftbefeuchter mit genauer Bezeichnung (z.B. HY17-C) + SuperFlush Artikel-Nummer
 Order of humidifier with built-in SuperFlush:
 Steam humidifier with exact description (e.g. HY17-C) + SuperFlush part number

Gerätebezeichnung Steam Humidifier	SuperFlush Artikel-Nr. SuperFlush part number
C01	B-3304069
C02	B-3304071
C06, MS05	B-3304067
C10, MS10	B-2304071
C17, C22, C30, C45	B-2304073
C58	B-3304073
HY05/HY08	B-2304075
HY13-HY45	B-2304077
HY60	2 x B-2304077
HY90 – HY116	B-3304065

Bestellung SuperFlush als Nachrüstsatz
 Order of SuperFlush as retrofit kit

Gerätebezeichnung Steam Humidifier	SuperFlush Artikel-Nr. SuperFlush part number
C06, MS05	B-3304061
C10, MS10, HY05/HY08, DB4-8	B-2304063
C17-45, HY13-HY45, DB10-45	B-2304065
C58	B-3304079
HY90 – HY116, HY7, DB60, DB90	B-3304063
Düse, lose Nozzle, loose für/for C06, MS05 für/for C10-C58, HY05-HY116, MS10	B-2304089 B-2304067
Düse, eingebaut* Nozzle, built-in* für/for C10-C58, HY05-HY116, MS10	B-2304079

* bei Zylinderbestellung
 * with cylinder order

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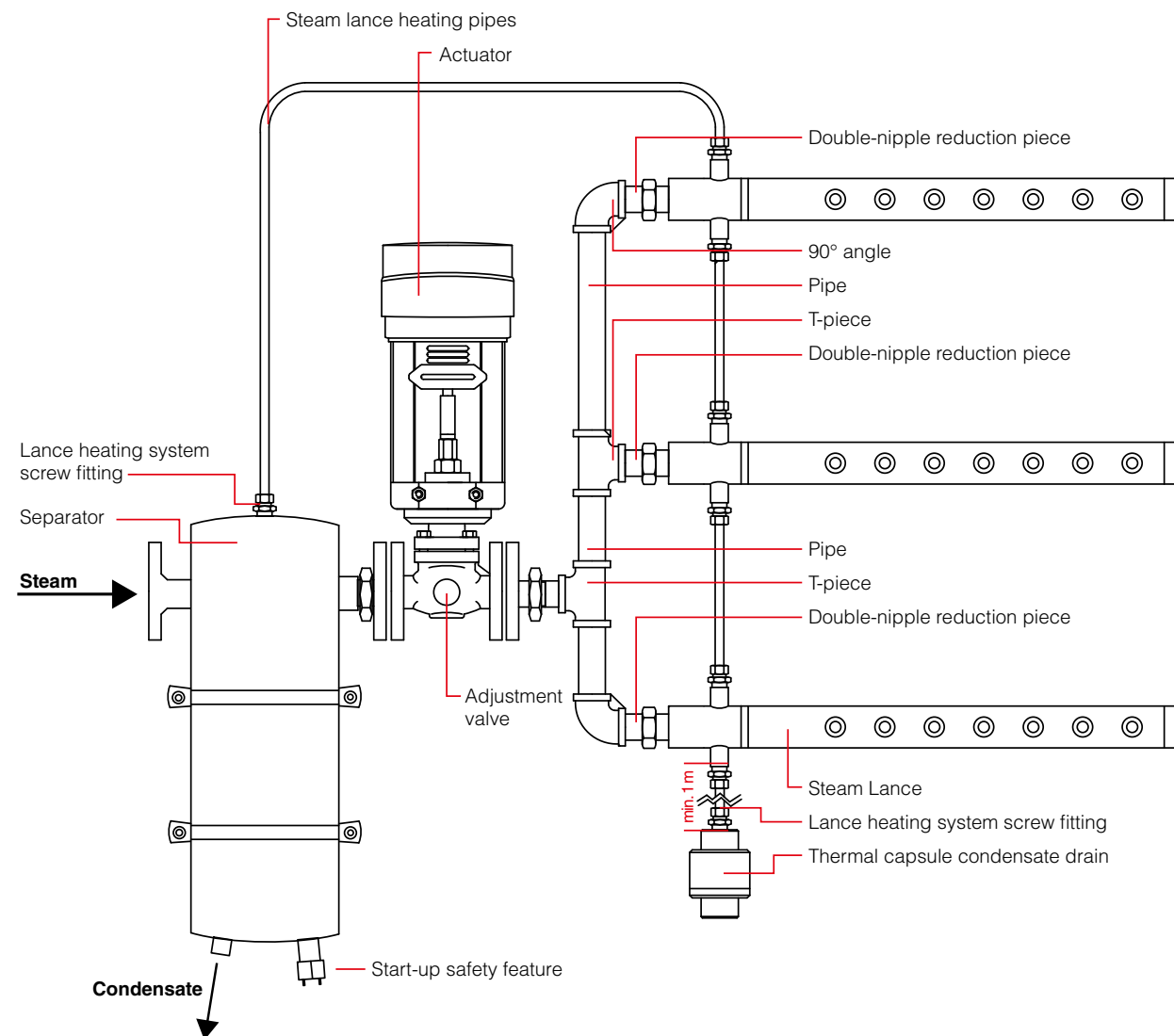
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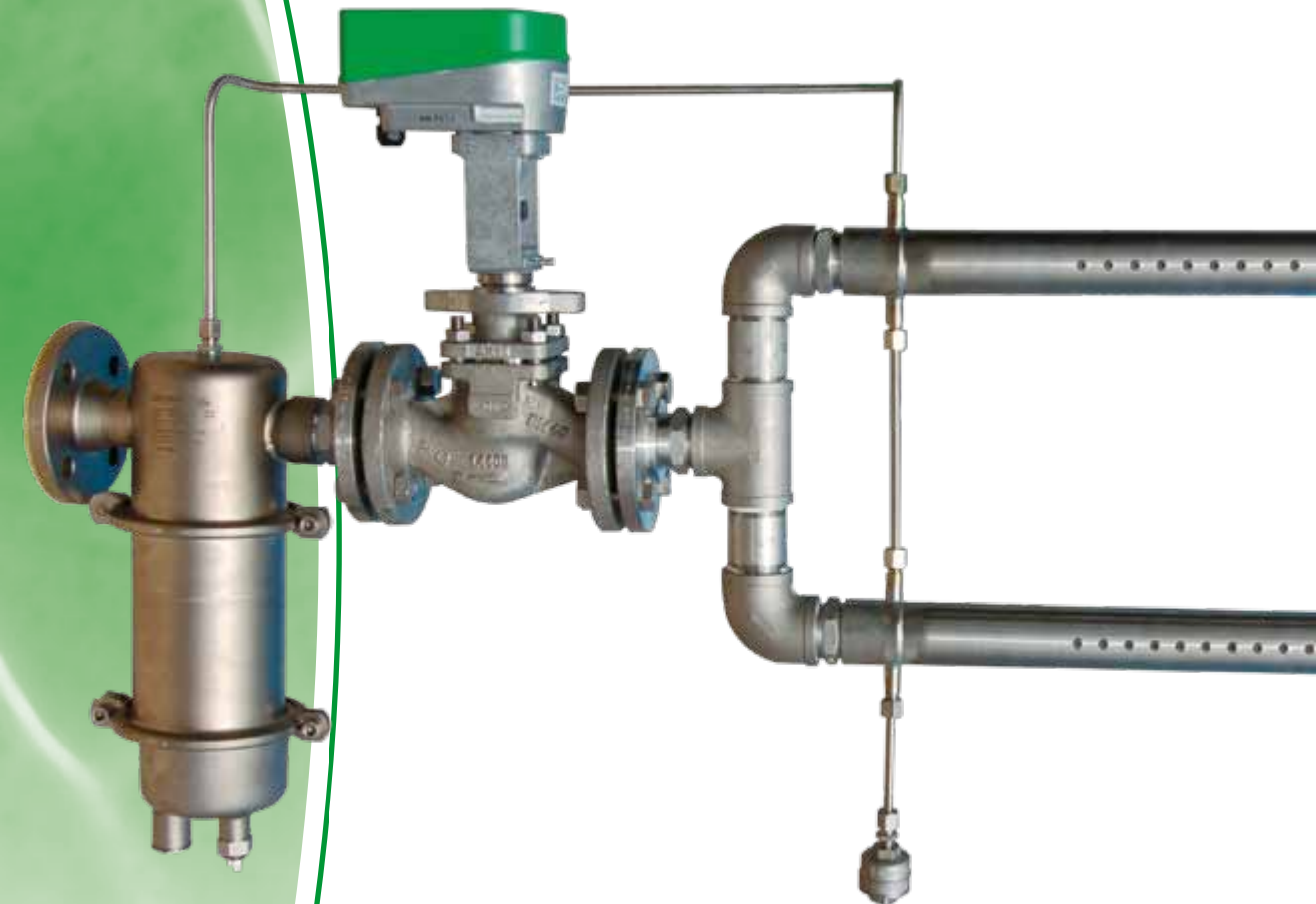
DDS

Installation schematic



HygroMatik DDS

The new generation of steam injection humidifiers



Source of cover pictures:
Lilly Forschung GmbH, Hamburg

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03/2012



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The new generation

The new HygroMatik DDS, the only system offering four components in one compact unit.

High performance separator, strainer, condensate drain and start-up safety feature – all in V4A stainless steel, compact, light and energy efficient.

The DDS can be configured individually. The standard flanged connections, compact dimensions and light weight ensure easy installation – even where available space is at a premium.

The HygroMatik DDS humidifies with condensate-free saturated steam and offers the shortest absorption distances.

Exchangeable strainer

The high-quality stainless steel strainer protects the actuator and the condensate drain from foreign particles from the steam network. The internal fine-mesh strainer can be exchanged when necessary.

High performance separator

The stainless steel separator separates steam from condensate using a spiral shaped guidance system. The low weight and compact closed-system makes the HygroMatik DDS easy to install and energy efficient.

High performance condensate drain

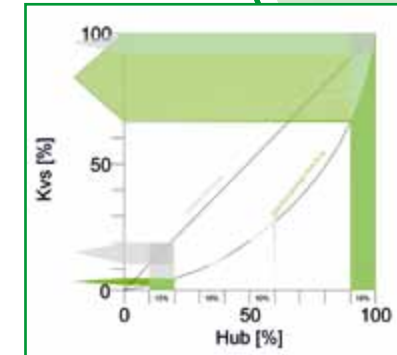
The robust, tight-sealing, ball-float condensate drain discharges condensate. Due to the fast-reaction operating principle and high capacity it can handle large amounts of condensate which are discharged away, for instance when starting the system. The closed-system approach prevents steam loss.

Optimum regulation

The bus compatible actuator ensures optimum control. Direct connection – no adapter involved.

The special metal-to-metal sealing HygroMatik actuator-valve controls the steam flow via valve-lift with percentual characteristic curve. This means:

- Especially fine control in lower ranges
- Rapid reaction for high humidification requirements in higher ranges



Stainless steel steam lances

They have low weight and are easily installed. Low-noise steam nozzles take steam from the driest areas of the steam lance.

The nozzles are positioned against the air-flow direction which ensures fast distribution and short absorption distances.



The internal, closed-system steam lance heating system

It is located at the lowest point on the steam lances so that any possible condensate can be vaporized immediately. The light and maintenance-friendly thermal condensate drain discharges condensate out of the heating system. The heating system is supplied directly from the separator or, alternatively, from a separate steam supply.

- Space-saving through internal heating system
- Rapid regulation during start-up through pre-heated steam lances
- No air-flow heating

Reliable start-up safety feature

The start-up safety feature switches in humidification only after a specified temperature has been reached. This effectively prevents condensate ingestion from the steam network into the air conditioning ducting.

The new DDS. Go green!

- The only 4 in 1 system
- Most compact dimensions and least weight
- Best energy efficiency
- Easy installation
- Flexible modular construction
- Customer-specific solutions

Flexible

All DDS components are light, simple to install and can be individually configured. It will fit anywhere.



Our service for you

- Personal on-site care provided by qualified field service employees
- Technical hotline: 0870 4685463 (0870 HOTLINE)
- HygroMatik service partners throughout Germany, Ireland and the UK – including in your vicinity
- Operating manuals, planning data and workshops available online at www.hygromatik.com



Specification

Steam Injection Humidifiers types DDS 20 and DDS 40

For short absorption distance humidification with condensate-free saturated steam.
For connection to existing steam networks. Compact, light-weight design which can be individually configured.

In 2 versions:

Version A: All stainless steel,
strainer, separator and condensate ball float drain trap in one compact unit

Version B: Also made of stainless steel except for strainer, steam control valve,
condensate ball float drain trap and screwed connections

Standard features include:

- **Strainer** with micro filter to protect valves from foreign particles from the steam network
- **Stainless steel low-weight separator** for optimum separation of steam and condensate. Using the centrifugal principle for highest efficiency and longest life
- Quick-action **condensate ball float drain trap** for continuous draining of large condensate quantities
- Bus-compatible **actuator** with linear lift and tight-sealing **steam control valve**, tested according to DIN EN 1349, IEC 60534-4, Class IV.
With characteristic curve for optimum steam control. This characteristic curve allows particularly fine control at the lower levels and fast adaptation to high moisture requirement in the upper control ranges
- Stainless steel **steam lances** for rapid distribution of saturated steam. Silent steam exit nozzles take the steam from the driest area of the steam lance for short absorption distances. Small footprint required with no air-flow heating thanks to the internal pre-heat system. Rapid start-up regulation using pre-heated lances. Separate system meaning non-return valve is necessary. Vibration-damped holder and floating mount system.
Multiple-lance system available for especially short absorption distances
- Light-weight and easily serviceable stainless steel **thermostatic capsule condensate drain**. This system prevents condensate back-pressure in the heating pipes and can be installed in various ways
- All components can be installed with ease
- **Start-up protection feature** to prevent condensates in air conditioning duct during system start-up

Optional:

- Pressure gauge R ½ ", stainless steel, range 0 - 6 bar

Technical data:

Humidity increase from g / kg
to g / kg
at g / kg

Duct Air Temperature
(at humidifier) °C

Duct air-flow m³ / h

Steam pressure: bar

Steam output kg / h

Steam lance (s) suitable for:

Duct width: mm

Duct height: mm

Selected steam lance length: mm

Absorption distance
to normal obstacle: mm

Humidifier: DDS

fitted with steam control valve:

Valve Type: K_{VS} :

Make:

and with electrical / pneumatic actuator

Type:

Make:

Technical Data HDS

Typ		HDS-1100-P	HDS-1100-P with Bypass	HDS-2200-P
Power rating	[kW]	0.94		1.6
Water capacity	[l/h]	46–260	12–180	90–520
Current connection	[A]	4.0		6.7
Voltage connection	[V/ph/Hz]	230/1/50	230/1/50	230/1/50
Control signal*	[V]	0–10	0–10	0–10
Dimensions Vortex modules		150 mm x 150 mm		
Number of nozzles		6–36	2–25	18–104
Absorption distance	[m]	0.9	0.9	0.9
Overall installation length	[m]	1.5	1.5	1.5
Pressure drop in duct – droplet separator, per step		30 Pa at 2.0 m/s velocity		

*others on request
Subject to technical amendments without notice

HygroMatik

Your partner for air humidification.

As Germany's largest manufacturer of humidifiers and humidification systems with 40 years of experience, we are the reliable partner for planning, installation and service.

HygroMatik high-pressure systems are the hygienic, energy efficient solution for high humidification outputs for office buildings, hospitals, production halls, laboratories and many other applications.



Please contact us.

Your local HygroMatik specialist will be happy to advise you on site and – with your support – establish the optimum solution for your application. Specialised distributors and trained installation companies worldwide are on hand to cover installation, commissioning and service.



HygroMatik online:

Please have a look at www.hygromatik.com, where manuals, specifications and other useful pdf's are available for download. And of course you will always find the latest product news.

HygroMatik-Hotline:

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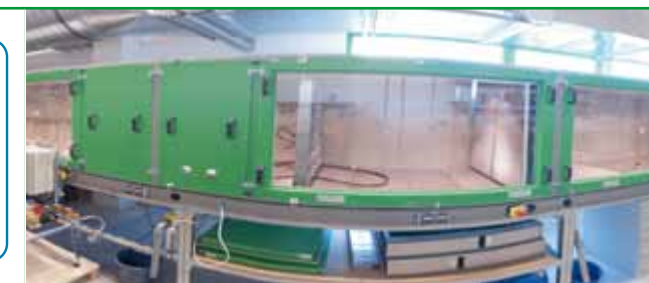
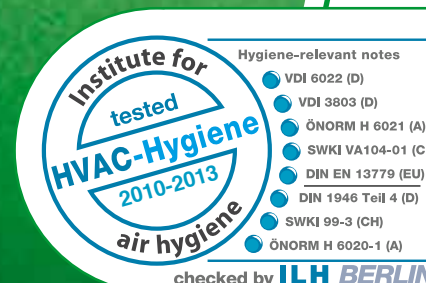
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HygroMatik HDS

High Pressure Humidification
and Cooling

- ✓ Adiabatic
- ✓ Energy saving
- ✓ Energy conscious
- ✓ Safe and secure
- ✓ Hygienic
- ✓ Certified

CE



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The HygroMatik **HDS** adiabatic humidification system humidifies the air in air conditioning systems. High pressure nozzles produce a very fine mist which is quickly absorbed into the air in the humidification chamber.

This produces hygienic high-efficiency humidification.

✓ Adiabatic

High pressure humidification at approx 75 bar provides the ideal pressure for creating a very fine water mist. Evaporation cools the air adiabatically.

This can save up to 30 percent cooling capacity in summer.

✓ Energy saving

The HygroMatik **HDS** high-pressure system enables high humidification output at a very low energy consumption. The sophisticated design concept ensures most effective utilization of the de-mineralised water through the system's high efficiency and exact controllability. Minimal waste water makes the overall water consumption extremely low.

✓ Energy conscious

Humidification with fully demineralised water effectively avoids calcium deposits and guarantees very low maintenance effort.

The new HygroMatik **HDS** combines low energy consumption at very low maintenance with absolutely no requirement for chemical or biological disinfectants. The **HDS** ensures fast amortisation and long life expectancy by the use of high-grade components throughout.

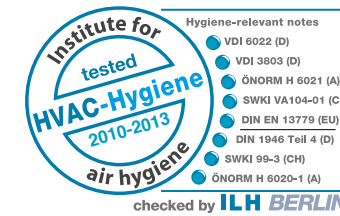
✓ Safe and secure

Highest operational security thanks to the compact design with lockable cabinets as well as constant sensor monitoring.



✓ Hygienic

The HygroMatik **HDS** Hygiene concept is designed to function without any chemical or biological disinfectants. Only demineralised water is present in the ambient air. The system contains no porous, water absorbing components. Standing water is effectively prevented and the whole system is automatically drained after a system shut-down. The water used for humidification comes into contact only with inert materials and is therefore absolutely hygienic. That means certified hygiene conformity.



✓ Certified

The HygroMatik **HDS** is certified in accordance with the German VDI 6022, 3803 and DIN 1946, the corresponding Austrian and Swiss standards as well as the European standard DIN EN 13779.

An approved and independent institute tested the **HDS** according to the state-of-the-art standards and fully verified total conformity (VDE Test Report Ref. No. 802300-3980-0001/85569).

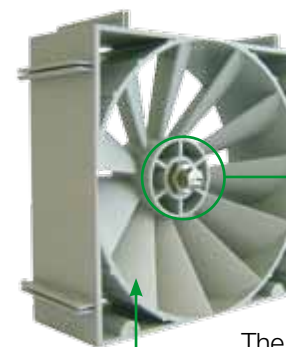
The HygroMatik **HDS** is certified according to CE and **Hygiene-Conformity** for air conditioning and hospital applications.

Hygienic. Tested. Certified. A system to be on the safe side.

The System

The HygroMatik **HDS**'s modular design makes it suitable for all air ducting. It is also suitable for short humidification distances of only 0.9 meters. With exact humidity control of plus/minus 1%.

The graphic display shows all messages and operational data and allows a user-friendly menu-driven operation. Constant supervision of all components and functions provide highest operational safety.



The Vortex wall assembled from highly developed Vortex modules mixes air and water mist effectively and over a very short absorption distance.



High-precision stainless steel high-pressure nozzles generate finest water mist.



Easy removable and cleanable, the droplet separator, made from fine high-grade metal mesh, prevents aerosol egress.



Specification HDS

High pressure nozzle system for air humidification in air ducts
for use with fully demineralised water

Adiabatic modular high-pressure nozzle system for duct air humidification and cooling. Very low energy consumption, high efficiency and extreme low water loss via proportionally controlled high-pressure humidification with Vortex module turbulence wall. The system contains non porous-elements. Effectively prevents any standing water, the humidification water only comes into contact with inert materials. The Hygiene concept is designed to function without any chemical or biological disinfectants. The system has certified Hygiene-Conformity in accordance with VDI 6022, 3803, ÖNORM H 6021, SWKI VA 104-01, DIN EN 13779 as well as DIN 1946, SWKI 99-3 and ÖNORM H 6020-1.

The **high-pressure** nozzle system consists of:

Atomising system with Vortex wall

The Vortex wall is assembled from inert highly developed Vortex modules, complete with high-pressure pipes and manifolds. The Vortex modules are equipped according to the required humidification output with high precision stainless steel nozzles. The air is effectively mixed with the fine water mist to achieve a very short absorption distance.

High-pressure pump group

Silent high-pressure piston pump for industrial applications with frequency inverter. For connection to 1-5bar inlet water pressure.

- Motor performance supervision
- Double high-pressure protection
- Leakage protection with level sensor
- 10µm water filter
- Stainless steel water sample tap for hygienic taking of water samples according to VDI 6022

SPC control, mounted on pump group

Exact proportional humidification via high-pressure sensor control. Thermo-sensor supervision and constant monitoring of inlet and outlet high-pressure for highest operational safety. Automatic draining of water pipes at start-up and standby and automatic stand-by draining according to VDI 6022 after a standby of 24h.

The top-quality SPC provides

- Graphic display, free choice of an operation language
- Display of operation hours, operational status, control signal, high pressure and maintenance message
- Fault memory for readout
- 9 function keys for easy operation
- 2 LEDs to indicate important system information

- 1 potential free remote signal
- Optional: full-load or part load operation
- Optional: changeover summer / winter operation

Two-Step Droplet Separator

According to German VDI 6022, VDI 3803:

Easy removable and cleanable two-step aerosol/droplet separator made from inert stainless steel mesh. Totally prevents aerosol egress when used according to specification. The very small amount of water loss is drained. Very low pressure drop of only 30Pa at 2,0m/s.

Requirements to be met on site

- Aerosol proof humidification chamber with service door and window for control and service purposes, with a grade of min. 1.5° against a siphon in the area of the droplet separator and the necessary guide rails for vortex wall and droplet separator
- Absorption distance of 900mm at overall installation length of 1500mm

Technical Data

Overall dimensions height x width x length		mm
Air throughput		m ³ /h
Air velocity		m/s
Air pressure drop total, at 2,0 m/sec (dry)	80	Pa
Air inlet	/.....	°C / % rF
Air output	/.....	°C / % rF
Humidification required		g/kg
Water requirement		kg/h
Water quality	Reverse osmosis water (5- 20 µS/cm)	

Pump group		
Max. water capacity		l/h
Power rating pump motor		kW
Voltage / frequency		V / Hz
Current pump motor		A
Inlet water pressure	1 – 5	bar
Dimensions pump group length x width x height	850 x 480 x 952 mm	

Type HygroMatik HDS

Atomising System VN

Vacuum nozzles



Compressed air nozzle system for room humidification

- Humidification output 8 l / h per vacuum nozzle
- Low energy consumption
- Additional free cooling effect
- Stainless steel nozzles

Humidification for health and quality

Correct humidity levels are essential for product quality and health. Dry air affects human well-being and has an adverse effect on growth and health in animal husbandry or greenhouses.

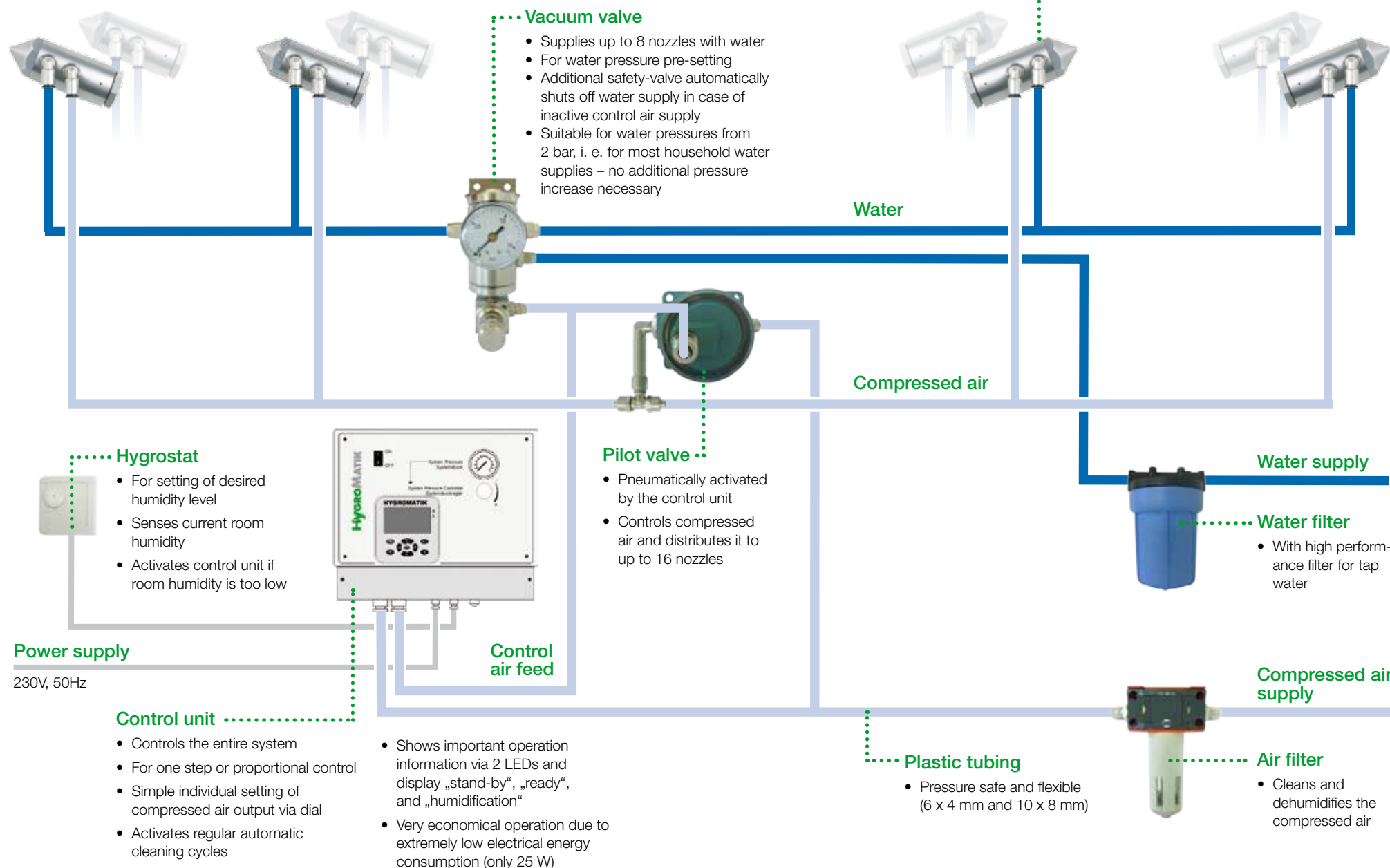
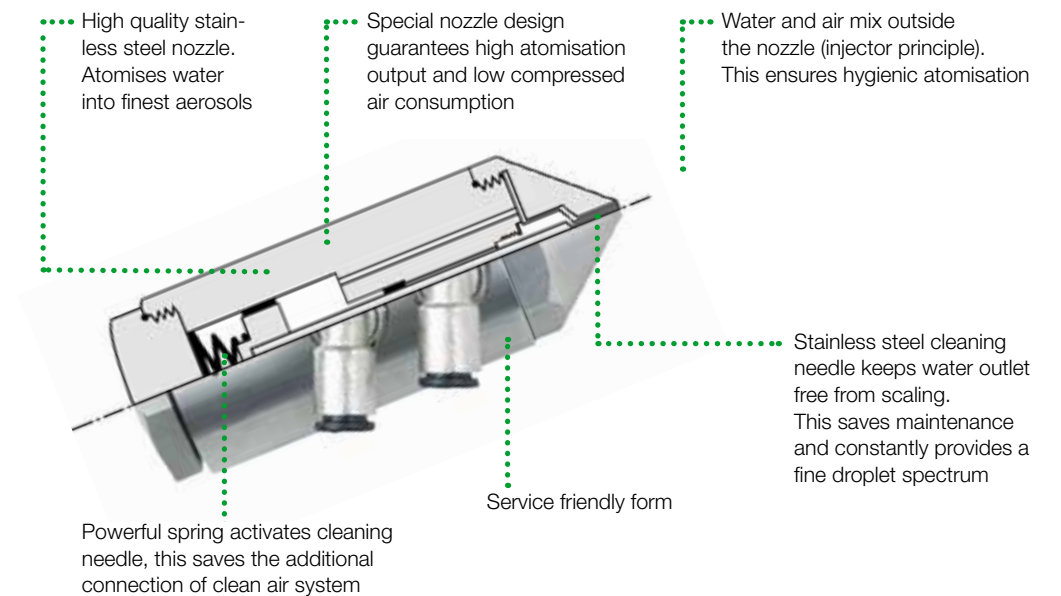
Exactly defined humidity levels are also fundamental in today's highly sophisticated production process environments.

The HygroMatik vacuum nozzle atomising system VN is installed in storage or production rooms and automatically supplies hygienic and energy-efficient air humidification.

Recommended humidity values:

Printing and paper storage	50 - 80 % r.H.
Electronic production processes	45 - 55 % r.H.
Veneer storage	50 - 60 % r.H.
Greenhouses	70 - 90 % r.H.
Woodworking and storage	55 - 65 % r.H.
Cool rooms	70 - 80 % r.H.
Spray booths	60 - 80 % r.H.
Leather production and storage	50 - 70 % r.H.
Tobacco processing and storage	70 - 80 % r.H.
Textiles (e.g. wood or cotton)	65 - 75 % r.H.

Atomising nozzle type VN



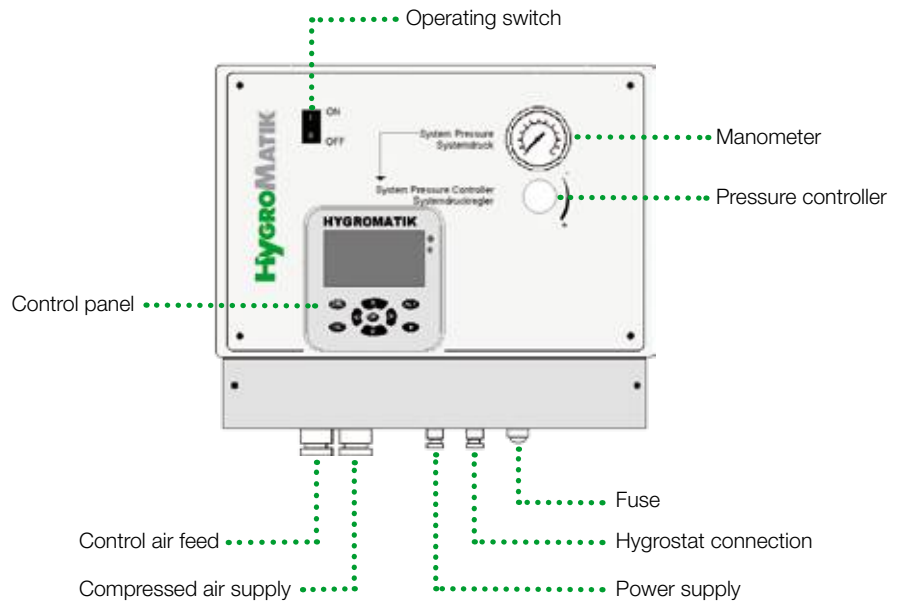
The tried and trusted principle

The HygroMatik vacuum nozzle atomising system atomises tap water with cleaned and dehumidified compressed air according to the injector principle. The compressed air flows through the nozzle. This generates a negative pressure which draws water into the nozzle. The water is then atomised into finest droplets, called aerosols.

The aerosols are generated in a closed system, i. e. at no point can standing water have contact with the air.

The system humidifies adiabatically, i. e. it provides a cooling effect for the ambient air.

Control unit CU-1



Technical Data Atomising System Vacuum Nozzles

Type		Vacuum Nozzle VN	Control Unit CU-1	Pilot Valve PV	Vacuum Valve Hy-W
Atomising Output	[l/h]	max. 8	–	–	–
Water					
Water Supply	[mm]	6 x 4	–	–	6 x 4
Water Drain	[mm]	–	–	–	10 x 8
Air					
Control Air	[mm]	–	6 x 4	6 x 4	6 x 4
Compressed Air	[mm]	6 x 4	–	10 x 8	–
Electricity					
Electrical Power	[W]	–	25	–	–
Electrical Supply *	[V/Hz]	–	230/50	–	–
Dimensions					
	Height [mm]	35	250	88	124
	Width [mm]	50	296	155	84
	Depth [mm]	86	107	120	85

Subject to technical amendments without notice.

* Other voltages on request.

Contact your HygroMatik team for assistance!

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